FAMILY ROOTS - TREE CHARTS
COMMODORE 64 Version

TREE CHARTS

INSTRUCTION AND REFERENCE MANUAL

BY

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NOTE: This product requires a data base as generated by Quinsept's Family Roots software in order to operate.

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Aug. 5, 1986

To all Commodore Tree Charts Customers:

Although the Tree Charts Manual says that the number of boxes can be increased to 140, the program works much better with a limit of 100 boxes. Increasing it results in Error 114, or ‘Out of Boxes’or ‘Out of Memory" errors. If you have a larger than normal record length or large namelist records you might want to decrease the number of boxes to 80 or 90 to avoid these errors.

With 100 boxes you will get about 30 people in a tree. We suggest that you break your trees up into segments. To do this:

1. Make a backbone tree. (Use Tree Join or Tree Edit.)
2. Split it up into segments. See section 8.2.1 of the manual.
3. Flesh out each segment (a tree in itself) separately using Tree Edit and Tree Grower.
4. Print each tree and join the strips together.

The author hopes to have a version out by the end of the year that will accomodate more boxes without running out of memory. We expect that upgrading to this new version will cost $20 or less, depending on the number of changes made. If you would prefer to return the program, we will be happy to refund the purchase price.

Sincerely,

Phyllis Maddox

Phyllis Maddox

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FAMILY ROOTS - TREE CHARTS

Instruction and Reference Manual

1. INTRODUCTION

Family Roots - Tree Charts is a set of programs which enable you to create and print out a graphical representation of your family tree. These programs lay out your tree and format the data from the Family Roots program for printing.

Your computer can automatically create a tree showing your ancestors, descendants or even both at once. You can then manually touch up the tree's layout to your satisfaction. The layout you have created can be saved on disk and easily updated when you make additions to your Family Roots data.

The tree layout can be printed out in several formats - everything from a bare outline to a format which includes almost all the data for each person. If your printer has special characters for printing box outlines, Tree Charts can use them.

This user's manual first describes the general functions of each program. A section describing how to start using the programs follows. The manual then goes into the details of each program. It concludes with some suggestions for doing family trees. The Family Roots manual should be read first since the Tree Charts program need the data which is prepared by using Family Roots. All sections of the Family Roots manual applying to all the Family Roots subprograms apply to the Tree Charts program as well.

2. OVERVIEW OF PROGRAMS

This section gives you an overview of the functions of each of the programs. More detailed descriptions can be found in the sections devoted to each program.

TREE MENU is the main program for creating, editing, printing and automatically growing trees. It permits you to load and save trees to and from the disk. You use it for setting parameters which control other programs. A batch command editor is provided for entering lists of commands, when you want the programs to do work without your supervision.

TREE EDIT is a word processor for trees. It enables you to lay out the pattern of people in the tree. You can add and delete people in the overall grid arrangement. You can also stretch (and shrink) parts of the tree to make room for more people. There is a convenient display of the relatives for a person so that you can decide who should be put into the tree and who shouldn't. There are several displays of the tree, showing the people and their positions in the tree. This program is entered from Tree Menu and it exits back to Tree Menu. You can also call up the Tree Grower program to automatically expand the tree in a controlled fashion.

TREE GROWER grows the tree by adding as many people as possible to an existing tree. The growth can be limited by "blocking counts" which stop the growth after a certain number of people have been added. Once the program has finished growing the tree, it exits to the Tree Menu program.

TREE JOIN is similar to Tree Grower except it creates a tree which joins two related people. This tree is somewhat skinny, but that can be corrected by using Tree Grower or Tree Edit.

TREE PRINT prints the tree, optionally printing extra information on each person from the Family Roots data diskettes. It prints the information wanted in boxes with a size you can specify. If you don't want to print the information on each person, you can generate a tree consisting of only ID numbers. If you want a general outline of the tree, you can print a super-concise tree where each person is represented by an "X"! If you don't have a printer, you can still use this program since you can redirect the output to disk. You could then get a friend with a word processor and a printer to print your tree.

TREE CONFIGURE lets you customize the Tree Charts to suit you and your computer system. You can set parameters which modify the programs's actions and you can take advantage of your printer's special line drawing characters, if any.

3. GETTING STARTED

The first thing you should do is to make a backup copy of the Tree Programs diskette. This can be done with your own copy utility or the DISKCOPY program supplied with Family Roots. Please see section 3.1- "Backups, Starting and other Basics" in the Family Roots manual for details on backing up your new program diskette.

Once you have made your backup copy, you should run the CONFIGURE program (on the Family Roots auxiliary programs diskette) to put your CONFIGURATION file on the Tree Programs diskette. Again, see the Family Roots manual for details. Note that this is in addition to the TREE CONFIGURATION file.

3.1 Setting Up TREE CONFIGURATION

You don't need to set up the TREE CONFIGURATION file immediately. The file contains parameters and other relatively constant information which are used by the tree programs. The configuration is preset for a standard Commodore printer and a normal Commodore 64. It should be changed if you are using a different printer with a Commodore interface which can't print the Commodore graphics characters used to draw boxes. See the section on the detailed use of TREE CONFIGURE when you are ready to optimize the tree programs for your computer system and your working habits.

3.2 Making Blank Disks for Storing Trees

If you want to save the trees, you will need a blank, formatted diskette. Note that the diskette will not become a special Family Roots diskette, it will be recognized by the programs as a "scratch" or "tree" diskette.

Formatting a disk erases all previous information on it and prepares it for storing new information. See section 4 of the Commodore 1541 disk drive manual, the NEW command, for details. The general format of the command (when given from BASIC) is:

```
OPEN 1,8,15 : PRINT#1,"NEWO:name,id" :CLOSE 1
```

"name" is a name you make up with a maximum of 16 characters starting with a letter. The "id" is a unique 2 character code which you also make up. This code identifies the diskette to the disk drive, so it can tell when you change the disks. Therefore, you should avoid having two disks with the same code. Otherwise the disk drive might not detect switched disks. For example, the command

```
OPEN 1,8,15 : PRINT#1,"NEWO:TREE LAYOUTS,T1" : CLOSE 1
```

would format the disk in the drive, setting the disk's name to "TREE LAYOUTS" and the disk identification code to "T1".

3.3 Switching Between Programs

You can access the tree programs by either booting the Tree Charts diskette (recommended) or by selecting PROGRAMS from the menu with the list of programs on a Family Roots diskette. If you make the selection from the FAMILY ROOTS menu, you should put the Tree Programs diskette in the appropriate drive before actually selecting PROGRAMS.

Type in the command <LOAD "START",8> and press <Return>. After the Start program has loaded (you should see the READY. prompt), type in the command <RUN> and press <Return>.

Once you have sucessfully gotten access to Tree Charts, you will see the menu in Table 1.

```
CHOOSE WHICH PROGRAM TO RUN, BY LETTER:

a) tree menu        (Creating, Editing,
              Growing and Printing
              trees)

b) tree configure   (Set the default
              Tree Parameters and
              make the TREE
              CONFIGURE file)

c) Family Roots     (Go back to Family
              Roots)

Which (a-c)?
```

Table 1. First Tree Programs Menu

You can run any of the programs listed by pressing the corresponding letter on the keyboard. Note that you shouldn't have to press the return key. (If you want to go back to the Family Roots programs, put the Family Roots disk in the drive and restart as in Section 3 of the Family Roots manual.)

3.4 Restarting a Program from BASIC

If some of the parameters are set incorrectly in the Tree Configuration file or if there is some undiscovered fatal flaw in the programs, you may be dumped into BASIC. If this happens or if you ended the session prematurely then you can restart all of the tree programs by typing "GOTO 20000" and pressing <Return>. If you get the BASIC error message OUT OF MEMORY frequently than you should consider reducing the maximum number of boxes/lines. Use TREE CONFIGURE for this.

3.5 Some Background Information on Trees

This section is a hodge-podge of bits of information on trees, as the Tree Charts see them. The tree is laid out on a square grid, several thousand squares wide in each direction. The tree is created by placing boxes and lines on the grid. The grid may be large, but you are limited to a few hundred boxes and lines (see TREE CONFIGURE). Each box represents a person and contains the person's ID number. The boxes are joined by lines which represent relationships between the people. Boxes may be placed only on every other horizontal layer, lines can go everywhere. This is to separate the generations. Lines and boxes can only be placed where there are empty spaces in the grid (obviously, since you can't have boxes on top of boxes, unless you happen to have a 3-D printer). You can't join a line with existing lines, this prevents you from having closed loops (otherwise the programs would be more complex and slower). If you want to show marriages within the family, you can either use two boxes with the same ID number (person) in both or you can make the second line butt up against the person (almost joining the person). Marriages are shown by having two boxes joined together with a horizontal line or with no line at all:

```
+---++---+          +---+     +---+
!083><082!    or    !020>--+--<019!
+---++---+          +---+     +---+
```

Children are specified by dropping a line down from the parents:

```
+---+     +---+
!083>--+--<082!
+---+  !  +---+
       !
       +----+
       !    !
     +-^-++-^-+
     !085!!084!
     +---++---+
```

Last of all, every box and line has 4 of the mysterious blocking counts associated with it. They are used to control the automatic growth of the tree in TREE GROWER. You don't have to worry about them unless you want to.

3.6 Switching Data Diskettes

Occasionally the Tree Charts programs may ask you to put a certain diskette in a certain disk drive, when they need information from that diskette. When this happens, switch the diskette in the drive with the requested diskette and then press any key on the keyboard except **N** or

<abort>*. If you pressed either of these keys, you should leave the original diskette in the drive.

The **N** or <abort> signals the computer that you don't want to switch diskettes. This may be ok, if the computer was trying to find some data to display for you. If it had other uses for the data on the diskette then your response may curtail the functioning of the program. For example, if you respond **N** or <abort> while the program is growing a tree then the tree may not be grown from the person which you prevented the program from seeing.

---

* <abort> is a special key which stops the programs. It is usually defined as the <ctrl-z> character, but that can be changed with CONFIGURE (see the Family Roots Manual).

4. DETAILED USE OF TREE MENU

TREE MENU is the program which lets you create, edit and print trees. It is entered by selecting TREE MENU from the menu of programs. If you are not sure how this is done, see section 3.3.

The message

```
TYPE ANY KEY WHEN YOUR DATA DISKETTES ARE IN THE DRIVES
```

will appear, unless you already have a tree in memory. Place the data diskette(s) and the diskette containing saved trees (if you are using it) in the drive(s). Don't worry about placing the wrong data diskettes in the drives, the program will ask you to switch diskettes as they are needed. It is a good idea to leave the Tree Programs diskette in one of the drives since it is frequently used.

Once you have placed the diskettes in the drives and pressed a key, you will see a message telling you to wait while the diskettes are being checked.

4.1 TREE MENU Main Menu

When the program has finished checking the diskettes, you will see the main menu. The choices are:

```
TREE MENU PROGRAM

WHICH DO YOU WANT TO DO:

  A) HAVE THE COMPUTER MAKE A TREE FOR
     A GIVEN PERSON.
  B) CREATE A TREE SHOWING THE
     RELATIONSHIP BETWEEN TWO PEOPLE.
  C) MANUALLY CREATE/EDIT A TREE.
  D) PRINT THE TREE IN MEMORY.

  E) SAVE THE TREE IN MEMORY TO DISK.
  F) LOAD A TREE FROM DISK INTO MEMORY.

  G) CHANGE EDITING PARAMETERS.
  H) CHANGE PRINT PARAMETERS.
  I) SET UP A BATCH RUN.

  J) CHECK DISKETTES.
  K) EXIT TREE PROGRAMS.

CHOICE (A-K)?
```

Table 2. Tree Menu Main Menu Choices

Option A asks for the ID number of a person and then grows a tree around that person until it runs out of memory or people. See section 4.2 for more details.

Option B asks the ID's for two people and then tries to make a tree which joins them. See section 4.3 for more details.

Option C calls a tree editor which lets you work on a tree. The editor displays the tree on the screen while you enter commands to place people and lines to form the tree. See section 4.4 for more details.

Option D prints the tree currently in memory, using current parameter settings (use option H to chage them). See section 5 for details on printing.

Option E saves the tree in memory to a disk which you have formatted in advance. See section 4.5 for more details.

Option F retrieves a previously saved tree from disk. See section 4.6 for more details.

Options G and H let you change the actions of the programs by changing the parameters which control them. See section 4.7 for more details.

Option I is used to set up a list of commands to be done by the programs. For example, you may make the programs create a new tree, save it to disk or print it out all without your supervision. See section 7 for information on the batch mode and its uses.

Option J checks the diskettes again. You must do this immediately after you change the data diskettes without being asked to by the program. Note that you can only change the data diskettes when you see the "Check Diskettes" option. See section 4.8 for more details.

Option K is used to exit from the program in order to run other programs or to end the session. See section 4.9 for more details.

4.2 Making a Tree for a Given Person

If you select option A from the TREE MENU main menu when a tree is in the memory, the computer will ask you if you want to keep that tree. If you do want to keep it, answers **Y** for "yes". You will be returned to the TREE MENU main menu where you can save your tree (option E). If you don't want to keep the tree (i.e., you have saved the tree to disk or you really don't want to keep it) then answer **N**. If there is no tree in memory, you won't get this question.

The program will then ask you for the ID number of the person to be at the center of the tree. Enter the number and press <return>. The program will display the name of the person and ask you if that person is the right person. Answer **Y** or **N**. If you answer **N** then you will be

given another chance to select the person. If you type <abort>, the program will go back to the TREE MENU main menu.

Once you select the person, you will be asked to wait while the TREE GROWER program is loading. Once finished, it will display a message asking you to wait while the tree is being grown.

As the tree is growing, the screen displays the ID number and name of the person for whom it is working. The tree will keep growing until all the people are done or until it runs out of memory. You can stop the program by typing <abort> without pressing the return key.

After a while the program will stop and display a message explaining why it stopped. Once you have read the message, you are prompted to press any key. The program will then go back to the TREE MENU main menu. You can then save your tree, go into the tree editor to have a look at it, or do anything else listed in the menu.

4.2.1 How TREE GROWER Works and Blocking Counts

TREE GROWER works by adding people to an existing tree. The program works on one person at a time. It tries to add that person's parents, spouses and children if they are not already attached. It then repeats the process for each person it had encountered.

The program will not add people in a given direction off the person being processed if the blocking count of that person is zero in that direction. See section 4.4.4 for information on setting blocking counts. This means that you can prevent TREE GROWER from adding a person's parents, grand-parents, uncles, aunts, brothers and everybody else who would be joined through the top of the current person's box by setting the upwards blocking count of his box to 0.

The blocking count for a new person is calculated by subtracting one from the count of the person to whom he or she is connected. For example, if person A has a blocking count of 2 (in all directions) and person B has just been added to the tree with a connection (line) to person A, person B will have a blocking count of 1 (in all directions). Blocking counts less than zero are set to zero.

Blocking counts larger than zero are useful for cutting off the tree growth after a certain number of people. If you wanted to stop the tree from growing after 2 generations past a person, you could do it by setting his blocking counts to 2 in the desired directions. This result doesn't correspond exactly to generations, it is really all the people related to the person through at most 2 other people (including going through the starting person).

Another use of blocking counts is to force the tree to grow in only one direction from a given person. This can be done by setting all blocking counts to "0" for all people in the tree (do this in the manual tree

editor) and then setting the blocking count for the given person in the desired direction to a large number (100 is good).

4.2.2 Weaknesses in TREE GROWER

TREE GROWER is a compromise between capability, size and speed. It takes a simple approach to doing parents and the first child of a person. If TREE GROWER can't plunk down the child or parent and the lines joining them with the person (because someone else is in the way), it gives up and doesn't do the child or parent.

On the other hand, if one parent has already been done then you can be reasonably sure that the other parent will be done. Similarily, the program can almost always add a spouse (up to a maximum of two, one on each side).

The program is also very good at adding children after the first child is in place. It adds the children in the order specified in the data from one of the parents. The children are added to the right of previous children unless there is an obstruction to right. In that case the program will then attempt to place them on the left of any previous children. If you are concerned about the order of the children, you can place them in the order you want by using the manual tree editor (check out the X command).

You may wonder why the program is so slow. The overall rate is typically one minute per person. It is slower for large trees. Most of the time is spent in moving the tree around in order to make room for new people. The program has to do many insertions, each one taking about as long as the move-right-stretch in the manual tree editor. The rest of the time is mostly spent accessing the disk. If you want to reduce these delays, you should save your trees to disk and then extend the saved trees rather than creating a new tree all over again.

4.3 Making a Tree That Joins Two People

To make a tree which shows the relationship between two people, select option B in the TREE MENU main menu. If there is a tree in memory then the program will ask you if you object to losing it. Answer **N** to continue (the tree in memory will be cleared) or **Y** to go back to the TREE MENU main menu (so that you can save your old tree to diskette). Option B needs to clear away any tree in memory before it can start making its tree.

The program will then prompt you for the ID numbers of the two people to be joined by a tree, showing their relationship. As usual, you get a chance to correct any mistakes in entering the ID numbers. You can enter <abort> instead of an ID number if you want to go back to the TREE MENU main menu.

After you have entered the ID numbers, the TREE JOIN program is loaded to do the actual work in creating the tree joining those two people. TREE JOIN will display a message asking you to wait while it is finding relatives. After a long while (depending on how distantly related the people are) the message will change to "Creating Tree". This will last for a short while. Finally it will display "Finished" and, after you press a key, it will go back to the TREE MENU main menu where you can save or work on the new tree. If the people are not related or if the program runs out of memory then TREE JOIN will display a message to that effect. The result is a tree which shows the shortest relationship between the two people. Other relationships have to be added manually with TREE EDIT.

4.3.1 How TREE JOIN Works

TREE JOIN starts off with the first person you specified. It then stores the ID numbers (in the computer's memory) of all people directly related to that person (parents, spouses, siblings and children). It then stores the relatives of the relatives. This process is repeated until the program encounters the second person whom you specified. To increase the number of people which can be stored in the computer's memory, ID numbers in the search are restricted to being less than 32767.

Once the second person has been found, TREE JOIN backtracks through the people it had stored until it reaches the first person. As it is backtracking, it creates the tree, which joins the two people.

The program can run out of memory if the two people are distantly related or if the first person has an enormous number of near relatives. The limit for the number of relatives stored is 2 times the maximum number of boxes. Of course, most of these relatives will not be in the final tree, but they must be stored just in case they are in the tree joining the two people which you specified.

4.4 How to Manually Edit a Tree

If you want to work on an old tree which you have previously saved to diskette, you must load it into memory. See section 4.6 for details. If you want to work on a new tree, you don't have to do anything special. Note that you should set any parameters you want to set before starting the tree editor, since you can't change them while in TREE EDIT (see section 4.7).

Select option C from the TREE MENU main menu. This will cause the TREE EDIT program to load. If there is no tree in memory (ie you are starting a new tree), the program will ask you for the ID number of a person to be in the tree. This can be anyone who will be in the new tree.

The program will ask you to wait while it sets up the quick display. After a short while, the program will display a portion of the tree on the screen. You are then prompted to enter a command. The prompt may include a number inside round brackets. This is the ID number of the person in the current box. The current box or line is indicated on the screen by flashing corners or a flashing center.

At this point, you can enter any one of several single letter commands which operate on the tree in memory. The commands are a single key-stroke, no need for <return>. You can get a list of the commands with a short description of each one by typing H (H as in Help). Here is the list:

A - ADD A BOX OR A LINE
E - ERADICATE (ERASE, ELIMINATE) A CHAIN OF BOXES ATTACHED TO THE FLASHING BOX/LINE
C - CLEAR THE TREE
U - MOVE THE CURRENT BOX/LINE UP
D - MOVE IT DOWN
L - MOVE IT LEFT
R - MOVE IT RIGHT
F - FIND A PERSON ALREADY IN THE TREE AND MOVE THE FLASHING CURSOR THERE
S - SHOW THE TREE (REDRAW TREE)
O - DISPLAY A SKELETAL OUTLINE
N - SHOW NEAR RELATIONS (PARENTS ETC)
B - SET BLOCKING COUNTS (SEE MANUAL FOR DETAILS)
G - GROW THE TREE AUTOMATICALLY
M - MOVE BOX RIGHT (INSERT SPACE ON LEFT)
X - EXCHANGE THE PERSON IN THE CURRENT BOX WITH ANOTHER PERSON
P - DISPLAY PERCENTAGE OF UNUSED BOXES
Q - QUIT (GOES BACK TO THE MENU)

Table 3. Help Command Display

4.4.1 Movement Commands in MANUAL TREE EDIT (U/D/L/R/F)

The simplest commands are the ones which move the current box/line around. The "current box/line" is the box or line which has colored corners or a colored center. It is a type of cursor. Note that you shouldn't confuse it with the text cursor which is a small flashing rectangle at the bottom of the screen. The commands which move the current box/line around are: U - up, D - down, L - left, R - right. The tree will be redrawn (quick display) each time one of these commands is entered unless you selected otherwise with TREE CONFIGURE. This can also be changed from TREE MENU option "G Change Editing Parameters". You can enter the next command while the quick display is being set up.

This speeds things up greatly (though it may result in an incomplete display later on). After you have entered the command, the display shows the new position of the current box/line. If you try to move off the boxes/lines into the wide open spaces, you will be told that you can't move in that direction.

You may become frustrated if you try to move from one side of the tree to the other in single steps. To get around this there is the F (for Find) command. To use it first press F. You will then be asked for the ID number of the person which you want to find. If that person is in the tree, that person's box becomes the current box and the tree will be redrawn. If that person has several boxes, one of the boxes will be picked, effectively at random. If the person is not in the tree, you will be informed that that person is not in the tree and the current box/line will remain unchanged.

4.4.2 Display Commands in MANUAL TREE EDIT (S/O)

There are 3 ways of displaying the tree. The quick, the slow and the skeletal. The quick and slow displays are called up by typing S (for Show). The program will then ask you if you want a slow display. If you answer Y then you will get a slow display. If you don't answer Y then you will get the quick display. The slow display goes through the whole tree to find boxes and lines which it can display. This ensures that everything which can be displayed is displayed. The quick display displays the lines and boxes which are attached to the current box. It can miss people who are joined by a line which goes off the screen and then back on. It is quicker than the slow display for larger trees.

The last type of display is the skeletal outline. It is called up by typing O (for Outline or Overview). Each person is displayed as an "O" and each line is displayed as a "+" or "-". The current box/line is colored and if it is a person, it is displayed as an "X".

4.4.3 Adding, Deleting and Exchanging Boxes and Lines (A/E/C/X)

One of the commands which you will use the most is the **A** command. This command Adds a box or a line to the grid. Note that the new box or line is always joined to an existing box or line.

You should first position the current box/line on an existing box/line next to the empty spot in the grid where you want the new box or line to go. Please see section 4.4.1 for information on the "current box/line" and how to move it around. Then type **A**. The program will ask you if you want a line or a box. Enter **L** for a line or **B** for a box. If you entered **B** then you will be asked for the ID number of the person to be placed in the new box. The program will then ask you for the direction in which the new box/line will be attached off the current box/line. Respond with **U, D, L** or **R** (up, down, left or right).

If the box/line was successfully added then the display will be redrawn, showing the new box or line as the current box/line. If something went wrong then a message will appear at the bottom of the screen, just above the prompt, describing the problem.

The opposite of the Add function is the Eliminate function (we couldn't use Delete since the **D** command is needed for moving down). This command will eliminate boxes or lines which are attached to the current box/line. Please see the Move Box Right - Shrink method (4.4.6) for a way to eliminate horizontal lines between two other boxes/lines.

You should place the current box/line at the end (begining? It's all relative) of the chain of boxes and lines which you want to eliminate (see section 4.4.1). Then type **E**.

The program will then ask you for the direction in which the chain is attached to the current box/line. If you respond with <abort> then nothing will be eradicated.

The program starts deleting the chain as soon as you specify a valid direction. After a while the tree will be redrawn without the boxes and lines which were attached, in the given direction, to the current box/line.

If you want to start a new tree while in the manual tree editor then you can use the CLEAR command. Typing C will start the clearing sequence. The program will first ask you if you really want to clear the tree. If you don't respond **Y** then the program will not destroy your tree. If you did respond **Y** the program will first clear the tree and then it will ask you for the ID number of a person to be in the new tree. The screen will then change to show you your new tree, with a single person already in it.

If you accidentally put the wrong person in a box, you can exchange him or her with the correct person by using the **X** command. You can also put a person into a line, thus changing the line into a box. To do this, first position the current box/line over the box (or line) where you want to put the new person (see section 4.4.1). Then press **X**.

The computer will ask you to press **P** if you want to put a person in the current box/line. You can also convert the current box into a line by pressing **L** instead of **P**. If you type anything else, no exchange will be done.

If you press **P** you will be prompted for the ID number of the person to be placed in the current box/line.

The screen will then be redisplayed with the exchanged person (or line) as the current box/line.

4.4.4 Setting Blocking Counts (B)

See section 4.2.1 - "How TREE GROWER Works and Blocking Counts" for information on blocking counts and their uses. You can set the blocking counts for the whole tree at once or for a single box/line in the tree. The blocking counts will show up as inverse video digits in the sides of the boxes and lines. Blocking counts larger than 9 will be displayed as 9. There is also a cut-off parameter which sets the largest displayable blocking count (see sections 4.7.1 and 6.1.3.3 for information on parameters). Counts larger than this parameter are not shown.

To set the blocking counts for the whole tree, enter the **B** command, answer **Y** to the question about setting blocking counts for the whole tree, then enter the blocking count and press return. Blocking counts are in the range 0 to 32000, though values larger than the maximum number of boxes/lines are redundant.

If you want to set the blocking counts for a certain box/line, you must first make the box/line for which you want to set the counts into the current box/line by moving the cursor there. Type in the command **B**. You will be asked if you want to set the blocking counts for the whole tree. Answer this question with a **N**. The program will then ask you for the direction in which you want to set the blocking count. Answer **U, D, L** or **R**. Finally, the program asks you for the blocking count.

4.4.5 Growing the Tree Automatically (G)

If you want to automatically extend the tree which you are working on, you can call up TREE GROWER from the manual tree editor. If you are using blocking counts, you should set them before calling up TREE GROWER. Please see section 4.2.1 for more information on TREE GROWER.

First position the current box/line on the person for which you want the growth to spiral from. Please see section 4.4.1 for information about the "current box/line" and positioning it. Then type G. TREE GROWER will be loaded into the computer. After a while you will see your tree being grown. TREE GROWER will display the people it is working on as it grows the tree. You can stop the growth by typing <abort> (no <return>).

When the program has finished, it will display a message describing why it has stopped. After you have acknowledged the message (by pressing a key), you will be returned to the TREE MENU main menu. You can go back to the manual tree editor from there, if you want.

4.4.6 Moving Boxes Around or How to Insert (M)

You can get the computer to move boxes around for you. If you want to make some space for a new spouse, you can tell the computer to move the boxes and lines aside to make room for the new spouse. For example, we want to add a spouse on the left of person number 12. We can move person 12 to the right:

```
   +---++---+                 +---+      +---+
---<083!!012>---   becomes ---!083!      !012>---
   +---++---+                 +---+      +---+
```

Table 4. A Moving Example (Stretch)

This gives us a space to add the spouse. That was an example of the "stretch" type of move.

The other type of move is the "shrink" type. It compresses horizontal lines wherever possible. It isn't necessary to use this type of move, but it is useful for compacting a sprawling tree. For example, if you want to shrink the line joining the married couple you could move person 83 right:

```
+---+     +---+                +---++---+
!083>--+--<012!      becomes   !083><012!
+---+     +---+                +---++---+
```

Table 5. Another Moving Example (Shrink)

What about moving left, you ask? You can't move boxes or lines left. This isn't a great restriction since whatever can be acomplished by moving a box left can also be acomplished by moving another box right. Note that you can move both boxes and lines around.

To do either type of move, first position the current box/line (section 4.4.1) on the box or line which you want to move. Then press **M**. The program will ask you to confirm that you really want to do a move. Respond **Y** if you want to do the move.

The program will then ask you if you want to use the stretch method. Answer **Y** if you want to use the stretch method, answer **N** if you want to do the shrink method. If you responded Y then the program will start working.

If you responded N then the program will ask you if you want to use the shrink method. Answer **Y** if you do. If you answer **N** then no move will occur.

While the program is doing the move, it will display the message "Moving Boxes Around". If the program runs out of boxes while doing the move then the tree will be only partially moved. When the move is finished, you will be returned to the prompt for the next command. You can't interrupt the move by typing <abort>.

The move will take a while, depending on how many boxes have to be moved. If the tree is very large (about 150 people with about 200 lines joining them) then the worst case move takes about 10 minutes. In case you were wondering, the worst case is to move someone who is on the left side of the tree. Try to keep your tree layouts small and avoid using moves on the left side of the tree. (Note: Tree Grower makes heavy use of stretch type moves.)

4.4.7 Displaying Nearby Relatives (N)

If you type an **N**, while the current box/line (section 4.4.1) is on a person, then you will get a display of the names and ID numbers of that person's father, mother, spouses, children and siblings. If the current box/line was on a line then the program will ask you for the ID number of a person. It will then do the same display of relatives for that person.

4.4.8 Going Back to the TREE MENU Main Menu (Q)

When you have finished manually editing your program, you should go back to the TREE MENU main menu by typing the command **Q** (for Quit). You can then save your tree to diskette by selecting option E from the menu (see section 4.5), if you want a permanent copy of your tree. You don't have to save it immediately since it will remain in memory, unless you use TREE CONFIGURE, turn off the computer, or use any non-Tree Programs (such as Family Roots).

4.5 Saving a Tree from Memory to Disk

It is a good idea to save your trees on disk, especially if they are large and difficult to re-create. You can save several different trees on the same disk. This allows you to prepare trees which display each branch of your family separately, or all together. You could also save a base tree which you would embellish to create different varieties of the family tree. However, the main advantage of saving trees is that you don't have to spend any time creating them over again. For differences between Saving to Disk and Printing to Disk, see section 5.5.

The first step in saving the tree in memory is to select option E from the TREE MENU main menu. You can use any formatted diskette. It is a good idea not to use program or data diskettes. Space is limited on them.

Once you have placed the diskette in the drive, you should press any key (except **N** or <abort>). If you have changed your mind and don't want to save the tree, you can enter **N** or <abort> in response to the prompt. This will take you back to the TREE MENU main menu.

TREE MENU will then look at your diskette. If it is a program, data or text diskette then it will ask you if you really want to use it. If you respond **N** then you are given a chance to insert another diskette. If it is not a Family Roots diskette then nothing special happens; it expects that.

You are then asked for the name of the file to contain the tree. Enter it and press <Return>. You can make up almost any name up to 16 characters long starting with a letter. Descriptive names are best. If you don't want to save the tree, you can enter <Abort> followed by <Return>. This will get you back to the TREE MENU main menu. If you want to see what

files are already on the diskette, you can press <Return> without entering a file name. After a directory listing, you will see the prompt for the file name again.

Once the file name has been entered, the program will begin saving your tree to the diskette. After it has finished saving the tree, it will check the diskettes and then go back to the TREE MENU main menu.

4.6 Loading a Tree from Disk to Memory

To get your tree back from the diskette, select option F from the TREE MENU main menu. The program will ask you to put the diskette with the tree on it into a particular drive. After doing so, press any key (except **N** or <Abort> which exit back to the main menu).

You will be asked to enter the name of the file containing the tree. If you entered the name (and pressed <Return>), the program will load the tree into memory, replacing any previous tree. When it has finished loading the tree, it will check the diskettes and return you to the TREE MENU main menu. If you entered <Abort> followed by <Return> then you get back to the main menu without loading the tree (the tree in memory is left intact). If you pressed <Return> then you get a list of the names of the files on that diskette.

You may get a message saying that the tree requires more boxes than the number of available boxes. This could happen if you reduced the maximum number of boxes and lines (by using TREE CONFIGURE). To remedy this, increase the maximum to the number of boxes/lines in the tree on the diskette and try again. (The number is shown in the message.)

4.7 Changing Parameters in TREE MENU

Two sets of parameters control the operation of the Tree Programs. These parameters take on default values which can be changed by using TREE CONFIGURE. The first set controls TREE EDIT and TREE MENU. The second set is used by TREE PRINT and is mostly concerned with the format of the printed output.

4.7.1 TREE EDIT and TREE MENU Parameters

Seven parameters can be changed. To change them enter G in the TREE MENU main menu ("Change Editing Parameters"). You will see a list of parameters with their current values. Change any of them by first typing the letter beside the parameter in response to the "WHICH (A-G)?" question. You are then prompted with the description of the parameter. If you type <return> instead of a parameter's letter, you will be returned to the TREE MENU main menu.

Once you select a parameter, you are prompted for its new value. If you press <return> the parameter's value is left unchanged. If you enter a value, that value becomes the parameter's value. Note that you don't

have to press <return> after entering the value for some of the parameters.

The parameters are:

A) **DISPLAY TRACE MESSAGES.** This is normally off (0). If you want the computer to display a lot of cryptic messages, which show some of the inner workings of the programs, then turn this parameter on (1). It is useful for showing that the computer is still working during those long pauses where it seems to be doing nothing.

B) **SHOW NAMES OF PEOPLE.** If this parameter is on (1) then the names of six of the people on the screen in the manual tree editor will be displayed at the bottom of the screen. If it is off, their names won't be displayed.

C) **DRIVE FOR TREES.** This is the number of the drive which will be used for loading and saving trees.

D) **LARGEST VISIBLE BLOCKING COUNT.** Blocking counts larger than this value are not displayed in the manual tree editor.

E) **REDRAW TREE WHEN NECESSARY.** If this parameter is on (1),the tree will be redrawn after every movement instruction in the manual tree editor. If it is off (0), the tree won't be redrawn as often. While redrawing the tree slows things a lot, you can stop the redrawing by entering the next command.

F) **CHECK DISKS AFTER SAVE/LOAD.** This parameter can be used to avoid the disk check operation which is automatically done after saving or loading a tree in TREE MENU. If it is set to 1, the disks will be checked. If it is set to 0, the disks won't be automatically checked after saving or loading a tree.

G) **BATCH TREE LOAD AND SAVE NAME.** This is the name of the file which will be used for saving or loading trees in batch mode. In non-batch mode, the program asks you for the file name and doesn't use this value. This parameter isn't very useful since there is a batch mode command to change the name. The only real use is to see what the name of the last saved/loaded file is after batch mode has finished.

4.7.2 Changing TREE PRINT Parameters

Several parameters control the operation of the TREE PRINT program. To change them from their default values or to define a header select option H ("Change Print Parameters") from the TREE MENU main menu. You will then see this menu:

```
PRINT PARAMETER SELECTION

A)  SELECT USER DEFINED FIELDS TO BE
    PRINTED.
B)  DEFINE THE HEADER.
C)  SET TREE PRINT PARAMETERS.
D)  EXIT BACK TO TREE MENU

CHOICE (A-D)?
```

Table 6. Print Parameter Menu

Pressing **A** will give you a list of all the user defined fields and whether or not they will be printed. If the words "not selected" follow the field's name then it won't be printed. You can alternate between "not selected" and "selected" by keying the letter beside the field's name. To go back to the last menu, press <return>.

Pressing B lets you define the header which will be printed on the top of each strip in TREE PRINT. You are first asked whether or not you want to use the previously defined header (if there is one). If you respond **Y**, the old header is left intact. If you respond <abort>, the old header is left intact and you won't be asked about headers any more.

If you respond **N**, you get to define a new header. You will be asked for the number of blank lines before the header, the text of the header and the number of blank lines following the header. After you have entered the header, the program will display it and ask you if it is OK. If you don't respond **Y** or <return>, you will get another chance to enter the header. See the ASK FOR HEADER parameter in the Family Roots manual, section 5.4, for more details.

Pressing C gives you a list of 25 parameters which control TREE PRINT. To change a parameter, press the letter next to the parameter's description. You will be prompted with the description of the parameter you selected. Enter the new value of the parameter and press <return>. If you press <return> without entering a value, the old value will be kept.

You can't see all of the parameters at once since there are so many of them. However, you can choose the range of parameters you see. This is done by setting parameter A ("First Visible Parameter") to the letter of the parameter you want at the top of the visible list.

For a description of what the parameters do, see section 5.4 "TREE PRINT Program Parameters".

4.8 Checking Diskettes

Option J in the TREE MENU main menu checks the diskettes. You must do this immediately after you change the DATA diskettes without being asked

to do so by the program. Note that you can only change the DATA diskettes when you see the "Check Diskettes" option.

After selecting **J**, you will be asked to wait while the diskettes are being checked. When the check is completed, you are returned to the TREE MENU main menu. You may get messages telling you that you have 'scratch' (non-Family Roots) disks or that there aren't any data diskettes. These messages are displayed for a timed interval. If you finish reading them before the time is up, you can press a key to end the time delay.

4.9 Exiting TREE MENU

If you choose option K or press <return> in the TREE MENU main menu, the exit menu will appear:

```
A) RUN ANOTHER PROGRAM
B) CHECK FREE SPACE
C) RETURN TO 'TREE MENU'
D) END SESSION

CHOICE (A-D)?
```

Table 7. Tree Menu Exit Menu

If you type **A** the TREE MENU will try to get the menu of programs available on the Tree Programs diskette (see section 3.3).

If you want to run Family Roots you should first use option **A**, "Run Another Program," then select "Family Roots" in the Tree Programs list of programs menu. See section 3.3 for more details on running the Family Roots programs. This extra step is needed to get rid of the tree which would waste memory space in a regular Family Roots program.

The remainder of the options should be familiar to you. If you are not sure of what they do, see the Family Roots manual, section 4.6 - "Exiting EDIT".

5. DETAILED USE OF TREE PRINT

TREE PRINT fills the layout of the tree with the data from Family Roots and prints it. You can choose which data are included from the Family Roots data diskettes from TREE MENU. You can also adjust the format in which the tree is printed, within limits.

5.1 Preparing to Print a Tree

TREE PRINT prints the tree currently in memory. If your tree is on disk, use TREE MENU to load it into memory before printing it (see section 4.6 - Loading a Tree from Disk to Memory). While you are still in TREE MENU, you may want to review the parameter settings which control the format of the printed tree (see sections 4.7.2 and 5.4).

With the tree in memory, select option D ("Print the Tree in Memory") from the TREE MENU main menu. If the "Ask for Header" parameter is on, you will be asked to define the header (see section 4.7.2). TREE MENU then loads the TREE PRINT program. After a short while you will see:

```
TYPE ANY KEY WHEN YOUR DATA DISKETTES ARE IN THE DRIVES
```

Insert the diskettes and press any key. The program will ask you to wait while the diskettes are being checked.

5.2 TREE PRINT Main Menu

After the diskettes have been checked, you will see the TREE PRINT main menu:

```
TREE PRINT PROGRAM

WHICH DO YOU WANT TO DO:     TODAY'S DATE.

   A) EXIT PROGRAM
   B) CHECK DISKS
   C) PRINT TREE USING SINGLE CHARACTER BOXES (SKELETAL OUTLINE)
   D) PRINT TREE USING ONLY ID NUMBERS
   E) PRINT TREE USING EVERYTHING SELECTED BY THE PROGRAM PARAMETERS

CHOICE (A-E)?
```

Table 8. Tree Print Main Menu

Options A and B should be familiar to you. Please read sections 4.9 and 4.8 respectively, if you are not sure about what they do. Options C, D and E print out a tree. Please see section 5.3 for more information on them.

5.3 Printing the Tree

Select the type of tree you want from the main menu (option C, D or E). Figure 1 shows a type C (skeletal outline) tree. Figure 2 shows the same tree with only ID numbers (type D). Figure 3 shows the tree with everything printed (type E). Figure 3 shows parts of the first two strips of the tree (the strips are put side by side to make one large piece of paper).

TREE PRINT will then start printing the tree. Be patient, TREE PRINT isn't fast. It has to fill the boxes in the layout with the information on each person, which takes time to organize. Naturally, this means that the simpler formats with less data to organize are printed in less time.

```
X+X
 !
 X+X
   >--+
   X+XX--+X
    >--++>+
    X+XXXXX
     >+
     XX
```

FIGURE 1

```
+---+     +---+
!023>--+--<007! +---+  !  +---+
       !
     +-^-+     +---+
     !008>--+--<009!
     +---+  !  +---+
            >--------------+
          +-^-+     +---++-^-+               +---+
          !011>--+--<015!!010>------------+--<013!
          +---+  !  +---++---+            !  +---+
                 >--------------+----+    >----+
               +-^-+     +---++-^-++-^-++-^-++-^-+
               !019>--+--<020!!016!!017!!012!!014!
               +---+  !  +---++---++---++---++---+
                      >----+
                    +-^-++-^-+
                    !021!!022!
                    +---++---+
```

FIGURE 2

```
                              THIS IS THE HEADER

Strip #1

+--------------------------------+
!SMITH, JOHN MARTIN (ID=23)      !
!Born: ?? ??? 1828 At: RICHMOND T!
!Died: ?? ??? 1898 At: RICHMOND T!
!Married: ?? ??? 1851>           >------------------+---------------
!SEX: M  Children: 1             !                  !
!                                !                  !
+--------------------------------+                  !
                                                    !
                                                    !
                                                    !
                                  +-----------------^--------------+
                                  !SMITH, GEORGE NELSON (ID=8)     !
                                  !Born: ?? ??? 1853 At: RICHMOND T!
                                  !Died: ?? ??? 1920 At: RICHMOND T!
                                  !Married: ?? ??? 188?>           >
                                  !Notes: 1) THIS IS THE FIRST     !
                                  !NOTE.  2) THIS IS THE SECOND    !
                                  +--------------------------------+
```

FIGURE 3

```
                              THIS IS THE HEADER

Strip #2

+--------------------------------+
!DWYER, BRIDGET (ID=7)           !
!Born: ?? ??? 183? At: CO. CORK, !
!Died: ?? ??? 1853 At: RICHMOND T!
<Married: <?? ??? 1851           !
!SEX: F  Children: 1             !
!                                !
+--------------------------------+



                                  +--------------------------------+
                                  !WILLIAMS, EUGENIA ADELAIDE (ID=9!
                                  !Born: ?? ??? 1851 At:           !
                                  !Died: ?? ??? 1917 At: NAPANEE, O!
-----------------+----------------<Married: <?? ??? 188?           !
                 !                !SEX: F  Children: 2             !
                 !                !                                !
                 !                +--------------------------------+
                 !
                 >---------------------------------------------------
                 !
```

FIGURE 3 (continued)

5.4 TREE PRINT Program Parameters

There are 25 parameters which control TREE PRINT. Use TREE MENU to change them (see section 4.7.2). This section explains what they do. The parameters are (as they appear in TREE MENU):

B) **TOP OF FORM AFTER PRINTS.** If this parameter is on, the printer will move to the top of a new page after it has finished printing. If it is off, then the paper will be left at the position where the printing stopped. For good alignment of the strips in the tree, you should set TOP OF FORM AFTER PRINTS to off, and TOP OF FORM BEFORE PRINTING to on.

C) **PRINT STRIP NUMBER.** If this parameter is on, then the text "Strip #" followed by a number will be printed at the top of every strip of the tree (just after the header). If it is off, the message won't be printed. See Figure 3 for an example.

D) **PRINT ID AFTER NAMES.** If this parameter is on, each person's name will be followed by their ID (record) number in brackets. See Figure 3 for an example. If it is off, no ID number will be printed.

E) **SIZE OF LEFT MARGIN.** This parameter sets the amount of blank space printed to the left of the tree. Normally you don't have a margin (set the parameter to 0). If you do want a margin (perhaps for binding together the strips), you should set this parameter to the number of spaces to be in the left margin. The margin is not included in the tab before the header.

F) **USE LAST NAME FIRST.** If this parameter is set to 1, the last name (or married name if married names are being used) is printed before the first and middle names. See Figure 3 for an example. If the parameter is off, the first name will be printed first.

G) **ASK FOR HEADER.** If this parameter is on, you will be asked to provide a header when you start up the TREE PRINT program. If it is off then you won't be asked to define the header, but any previously defined header will be printed. The header will be printed at the top of every strip. See the ASK FOR HEADER parameter in the Family Roots manual, section 5.4, for more details. Also see section 4.7.2 in this manual.

H) **TAB BEFORE HEADER.** This parameter sets the number of spaces printed before each line in the header. The number of spaces is counted from the edge of the paper; do not include the left margin.

I) **USE MARRIED NAME.** If this parameter is on, the married name will replace the last name (maiden name) if there is a married name. If the parameter is off, the last name will be printed unchanged.

J) **PRINT NOTES (USES MASK).** If this parameter is on, the notes for each person will be printed. If there is a note mask (after the number of notes) then only the selected notes will be printed. Please see section 4.3.5.6 in the Family Roots manual for information on note masks. If this parameter is off, no notes will be printed.

K) **PRINT USER DEFINED FIELDS.** If this parameter is on, user defined fields will be printed. If this parameter is off, no user defined fields will be printed. The particular fields which are printed are selected in TREE MENU (see section 4.7.2), though your selections can be overriden by the USE ALL USER DEFINED FIELDS parameter.

L) **PRINT NUMBER OF CHILDREN.** If this parameter is on, the number of children for each person will be printed. The word "Children:" followed by a number will be printed near the bottom of each box. If the parameter is off, the message and the number won't be printed. This feature is useful for checking that you have put all the children of a person into the tree.

M) **USE MONTH NAMES.** If this parameter is set, dates will have the months printed as a word, not a number. If this parameter is off, the months will be printed as numbers.

N) **LINES PER PAGE.** This is the number of printer lines on one page, exactly. For an 11 inch long page and printing at 6 lines per inch (a common arrangement), the parameter should be set to 66 lines per page. It is used to align the strips at the top of each page. If there are more than this number of blank lines between the header and the start of the tree, the program will save paper by not printing a page (or more) of blank paper. If you want the blank paper, set this parameter to a large value -(several thousand should be sufficient).

O) **TOP OF FORM BEFORE PRINTING.** If this parameter is on, the program will tell the printer to move the paper to the top of a new page before starting to print the first strip. It always starts the other strips at the top of a new page so it is a good idea to start the first strip there, too. The top of form after printing feature doesn't align the paper exactly at the top of the form. This means that you have to turn on this parameter if you want the strips to be aligned equally with the tops of the pages. If the parameter is off, the printer will not advance the paper to the top of the form before printing the first strip.

P) **SEND OUTPUT TO PRINTER.** If this parameter is 1, the formatted tree will be printed on the printer. If it is 0, it will be "printed" to a file on disk. The file's name is set by the FILE NAME FOR PRINTED TREE parameter. See section 5.5 for more information.

Q) **PRINT A RANGE OF STRIPS.** If this parameter is 1, a selected range of strips will be printed (set by the left and right strip number parameters). If it is 0, the whole tree will be printed.

R) **USE ALL USER DEFINED FIELDS.** If this parameter is 1, all user defined fields will be selected. Your selections of particular fields (section 4.7.2) will be ignored. If this parameter is 0, your selections of fields will be used. Of course, PRINT USER DEFINED FIELDS must be on for any user defined fields to be printed.

S) **BOX WIDTH IN CHARACTERS.** When a box is printed on the printer, it is printed this many characters wide. You can figure out the best width for a box by taking the line width in characters (for example, 80) and dividing by the number of boxes wide you want on each strip (use 3, then 80 divided by 3 is 26.666) and then rounding down (giving 26). The width is limited to values between 19 and 80.

T) **LINES FOR NOTES & FIELDS.** This parameter controls the number of printer lines used to hold notes, user defined fields and number of children. This space is at the bottom of the box. The computer will try to fit as much information as it can into the space. It will cut any extra information if either the space is full or an internal limit of about 250 characters is reached.

U) **LINES BETWEEN ROWS OF BOXES.** You may recall that the tree is set up with rows of lines and boxes containing people alternating with rows of only lines. The rows consisting of only lines can be made thinner than the rows containing a mixture of people and lines. You can set the number of lines used on the printer to print the rows consisting of only lines (in the tree). The minimum value of 1 is useable, but a thickness of 3 lines on the printer per line in the tree looks better. It also makes the connections between lines (in the tree) and boxes clearer, if you don't have a printer with line drawing characters. (If you are confused between the difference between lines in the tree and lines on the printer, just use a value of 3.)

V) **PRINT PITCH (CHAR/INCH).** If your printer has more than one character size then you can pick a size to be used for printing the tree. Enter a value in characters per inch, the program will pick the closest available size. The available sizes are defined by CONFIGURE (see the Family Roots manual). Commodore Graphics characters only print properly at 10 characters per inch.

W) **DRIVE FOR TREE PRINT OUTPUT.** When you are printing to disk, the disk drive specified by this parameter will be used for the "printed" output. See section 5.5 for more information on printing to disk.

X) **LEFT STRIP NUMBER.** If you want to print part of the tree you can select a range of strips to be printed. The range starts at the strip specified by this parameter. For this parameter to take effect, the PRINT A RANGE OF STRIPS parameter must be on.

Y) **RIGHT STRIP NUMBER.** Specifies the end of the range of strips to be printed. The rightmost strip will be the strip specified by this parameter.

Z) **FILE NAME FOR PRINTED TREE.** When printing to disk the output will be stored in a file with a name set by this parameter. See section 5.5 for more information on printing to disk.

5.5 Printing the Tree to the Disk or Printer

You have a choice between printing the tree on the printer or "printing" the tree to a diskette. For normal users (almost everybody) you would set the SEND OUTPUT TO PRINTER parameter to 1 and use the printer. If you don't have a printer, the program will assume that the tree is to be "printed" to the diskette and you won't have a choice.

There are differences between PRINTING a tree to disk and SAVING a tree on disk. Saving a tree produces a data file containing a list of the boxes in the tree, the ID#s of the people in the boxes, their locations, and any connecting lines or boxes. It takes less disk space and can only be used by this program which will read in the rest of the data from the FAMILY ROOTS data files to print a tree. Printing a tree to disk produces a text file containing an image of the finished tree with all the information to be printed in each box. It can be accessed with a word processor.

Why would you want to store the textual representation of the tree on diskette, you ask? The text file which contains the image of the printed tree can be sent to other computers by using a modem. You could embelish the tree with your word processor. You could print multiple copies without long delays (using your word processor). Another good use would be to run the text file through a graphics program which would display or print the text in elaborate type fonts. In other words, this feature makes the graphic output from the TREE PRINT program available for further processing.

If you select "printing" to disk (SEND OUTPUT TO PRINTER set to **0**) then when you print a tree, TREE PRINT will prompt you to insert a diskette in a certain disk drive (it's specified by the DRIVE FOR TREE PRINT OUTPUT parameter). You should use a normal diskette, not one of the data, program or text diskettes (see section 3.2). Press any key except **N** or <abort> when the diskette is in the drive. If you do type **N** or <abort> then you will be returned to the main menu. If you changed the diskettes then you should have the program check them before doing anything else.

The computer will create the data file to print the tree to. It will use the name you specified as the FILE NAME FOR PRINTED TREE (see sections 5.4 and 4.7.2). If a file with the same name already exists, it will be deleted before the new file is created.

Leave the diskette in the drive while the program is "printing" the tree. Nothing much will seem to happen; the disk drive will just whirr once in a while. When TREE PRINT is finished (it will display the word "finished"), you can take out the diskette.

Note that if you have only one disk drive, you won't be able to successfully "print" a tree to disk using the full-blown format (option E). However, you can still use the full-blown format if you are printing to the printer.

5.6 Setting the Range of Strips to be Printed

If you are using option E (print everything), you can select a range of strips to be printed. This permits you to print a selected part of the tree. Why would you want to do this? If you had made changes to the basic data (such as the birth date) for a few people and hadn't changed the layout of the tree, you could reprint the parts of the tree which contain the changes. Of course, this assumes that you saved the layout of the tree on disk (section 4.5) before you made the change-s.

Normally TREE PRINT will print the whole tree. To print a part of the tree you must first set the PRINT A RANGE OF STRIPS parameter to 1. This is done in the TREE MENU program before you actually start printing (see section 4.7.2). Now the LEFT STRIP NUMBER and RIGHT STRIP NUMBER parameters will take effect. Set them to the numbers of the leftmost and rightmost strips in the range you want to print. If you are reprinting a tree, consult the old printout for the appropriate strip numbers. Finally, load the tree into memory (if it isn't already there) and do the normal sequence of actions for printing a tree (see section 5).

5.7 What to Do while the Tree is being Printed

The program will start printing the tree after you have specified the type of tree (or after you have put the disk on which the tree is to be printed into the drive, if you are printing to disk). If you selected option E (print everything) then the program will display the ID number and name of the person it is working on.

You can stop it while it is printing by typing <Abort> by itself (no <Return>). You may have to hold down the abort keys (<Ctrl> and <Z>) for a few seconds since the computer only looks at the keyboard when the printer isn't printing (ie between lines). Also, the program won't stop until it finishes printing out the row it is working on.

The program may stop and ask you to insert a data diskette into a certain drive, when it needs information from that diskette. This only happens if you had choosen option E (print everything). Put the specified diskette in the specified drive and press any key except **N** or <abort>. **N** or <abort> indicates to the computer that you did not put the diskette in the drive and that the old diskette is still in the drive.

It will take a long time for the tree to be printed. This is because the program has to do a lot of work to format the data from each person into the boxes. The speed can be slightly improved by using smaller values for the maximum number of boxes parameter in TREE CONFIGURE. The program is also slowed down if you are using line drawing characters which require a lot of information to be sent to the printer in order to print them. You may notice delays longer than the usual ones, this is because BASIC is busy reorganizing the data in the computer's memory. This extra delay (usually less than a minute) is normal.

5.8 Checking Diskettes

Option B in the TREE PRINT main menu checks the diskettes. You must do this immediately after you change the diskettes without being asked to do so by the program. Note that you can only change the diskettes when you see the "Check diskettes" option.

After selecting B, you will be asked to wait while the diskettes are being checked. When the check is completed, you are returned to the TREE PRINT main menu.

5.9 Exiting TREE PRINT

If you choose option A in the TREE PRINT main menu, the exit menu will appear:

```
A) GO BACK TO THE MAIN TREE MENU
B) CHECK FREE SPACE
C) RETURN TO 'TREE PRINT'
D) END SESSION

CHOICE (A-D)?
```

Table 9. Tree Print Exit Menu

If you type **A** then TREE PRINT will try to get back to TREE MENU and its main menu.

The remainder of the options should be familiar to you. If you are not sure of what they do, see the Family Roots manual, section 4.6 - "Exiting EDIT".

6. DETAILED USE OF TREE CONFIGURE

TREE CONFIGURE is a program used to set up the defaults for various program parameters and to tell the programs some of the details about your particular computer. It is entered by selecting TREE CONFIGURE from the menu of programs (or by LOADing and RUNning it). Please see section 3.3 if you are not sure about how this is done.

After a short while the TREE CONFIGURE main menu will appear:

```
DO YOU WANT TO:


  A) SET PARAMETERS

  B) SAVE CONFIGURATION FILE

  C) PRINT FILE CONTENTS

  D) EXIT


WHICH (A-D)?
```

Table 10. Tree Configure Main Menu

Option A lets you change the default values of the program parameters and lets you tell the Tree Programs about your computer and printer. See section 6.1 for details. Option B is used to put the TREE CONFIGURATION file on all your TREE program diskettes. See section 6.2 for details. Option C prints the values of the parameters along with their descriptions using your printer. Section 6.3 has information on that. Option D is used to exit the program, see section 6.4.

6.1 Setting the Tree Configuration Parameters

After selecting option A from the TREE CONFIGURE main menu, you will see a menu listing the categories of parameters:

```
                SET PARAMETERS


      PICK A CATEGORY OF PARAMETERS TO CHANGE:

      A) TREE EDIT AND DISPLAY PARAMETERS

      B) TREE PRINT BOX FORMAT PARAMETERS

      C) TREE PRINT PAGE RELATED PARAMETERS

      D) TREE PRINT CHARACTER GRAPHICS

      E) DISK RELATED PARAMETERS

      F) MISCELLANEOUS


      WHICH (A-F)?
```

Table 11. Configuration Parameter Category Menu

Each category contains a group of related parameters. You have to set or skip over the parameters to get to the one you want to change, if it is near the end of the group. You can skip over (leave unchanged) a parameter by just pressing <return>. More details on entering values later. The groups of parameters are:

TREE EDIT PARAMETERS

- SHOW NAMES OF PEOPLE WHEN DISPLAYING TREES
- LARGEST DISPLAYABLE BLOCKING COUNT
- REDRAW THE TREE AFTER COMMANDS WHICH DON'T CHANGE THE TREE
- STRING WHICH WILL TURN ON REVERSE VIDEO.
- STRING WHICH WILL TURN OFF REVERSE VIDEO.
- STRING WHICH WILL SIMULATE FALSHING CHARACTERS WHEN PRINTED. A GOOD CANDIDATE IS ONE OF THE COLOR SELECTION CHARACTERS. THE DEFAULT VALUE IS YELLOW.
- SCREEN WIDTH TO USE WHEN DISPLAYING TREE OUTLINES IN 'TREE EDIT'. IF YOU HAVE AN 80 COLUMN DISPLAY

TREE PRINT BOX FORMAT PARAMETERS

- PRINT ID AFTER NAMES
- USE LAST NAME FIRST
- USE MARRIED NAME
- PRINT NOTES (USES NOTE MASK)
- PRINT USER DEFINED FIELDS
- PRINT NUMBER OF CHILDREN
- USE MONTH NAMES
- PRINT ALL USER DEFINED FIELDS (IGNORING YOUR SELECTIONS)
- DEFAULT BOX WIDTH IN CHARACTERS
- NUMBER OF PRINTER LINES TO RESERVE IN EACH BOX FOR PRINTING USER DEFINED FIELDS, NOTES AND THE NUMBER OF CHILDREN
- NUMBER OF PRINTER LINES FOR PRINTING THE LINES BETWEEN ROWS OF BOXES

TREE PRINT PAGE RELATED PARAMETERS

- TOP OF FORM AFTER PRINTS
- TOP OF FORM BEFORE PRINTING. TO ENSURE ALIGNMENT OF THE STRIPS (AT THE COST OF WASTED PAPER), SET THIS PARAMETER TO 1.
- NUMBER OF LINES ON A WHOLE PAGE. USUALLY 66 (11 INCHES * 6 LINES PER INCH).
- PRINT PITCH TO USE FOR PRINTING TREES - CHARACTERS PER INCH
- PRINT THE STRIP NUMBER AT THE TOP OF EACH STRIP
- PRINT A SELECTED RANGE OF STRIPS (0 TO PRINT ALL STRIPS, IGNORING THE LEFT AND RIGHT STRIP PARAMETERS)
- STRIP NUMBER OF LEFTMOST STRIP TO BE PRINTED (USED WHEN PRINTING A SELECTED RANGE OF STRIPS)
- STRIP NUMBER OF RIGHTMOST STRIP TO BE PRINTED
- SIZE OF LEFT MARGIN
- ASK FOR HEADER
- TAB BEFORE HEADER

TREE PRINT CHARACTER GRAPHICS

- THE CHARACTER FOR A SPACE.
- THE RIGHT HALF OF A HORIZONTAL LINE.
- THE TOP HALF OF AN UPWARDS LINE.
- THE LOWER LEFT CORNER OF A BOX.
- THE LEFT HALF OF A HORIZONTAL LINE.
- A HORIZONTAL LINE.
- THE LOWER RIGHT CORNER OF A BOX.
- A HORIZONTAL LINE WITH A LINE GOING UP (LIKE AN UPSIDE DOWN 'T').
- THE LOWER HALF OF A VERTICAL LINE.
- THE TOP LEFT CORNER OF A BOX.
- A WHOLE VERTICAL LINE.
- A VERTICAL LINE WITH A LINE JOINING FROM THE RIGHT.
- THE TOP RIGHT CORNER OF A BOX.

- A HORIZONTAL LINE WITH A LINE GOING DOWN (LIKE A 'T').
- A VERTICAL LINE WITH A LINE JOINING IT FROM THE LEFT.
- A HORIZONTAL LINE ON TOP OF A VERTICAL LINE (LIKE A '+').
- SPECIAL PRINTER INITIALIZATION FOR PRINTING TREES. (EG: CHANGING LINE SPACING). NOTE: THIS DOES NOT INCLUDE CHARACTER SIZE SELECTION.

DISK RELATED PARAMETERS

- DRIVE TO USE WHEN SAVING AND LOADING TREES ON FLOPPY DISKS
- FILE NAME TO USE WHEN SAVING AND LOADING TREES
- CHECK DISKS AFTER SAVING OR LOADING A TREE FROM DISK.
- SEND TREE PRINT OUTPUT TO THE PRINTER (0 FOR DISK)
- DRIVE TO USE FOR TREE PRINT OUTPUT (WHEN SAVING THE PRINT COPY OF THE TREE TO DISK.)
- FILE NAME TO USE WHEN PRINTING A TREE TO DISK.

MISCELLANEOUS

- MAXIMUM NUMBER OF BOXES/LINES.
- DISPLAY PROGRAMMER'S TRACE MESSAGES
- SIZE OF CACHE USED FOR FINDING BOXES IN TREE GROWER.

The general procedure is the same for all parameters. Each parameter can be either a number or a group of characters. In both cases you will be prompted to enter the parameter. The prompt will include the description of the parameter along with its current value. Note that you can temporarily change some of the parameters in the programs with a "change program parameters" menu (TREE MENU). In those cases, the values specified in TREE CONFIGURE set the start-up or initial value.

6.1.1 Entering a Number

To enter a numeric parameter, type in the number after the prompt "Number?" and then press <Return>. If you just type <Return> the value will be left unchanged and the program will move on to the next parameter. If you type <Abort> followed by <Return>, you will be returned to the menu.

If the number was in the valid range for that parameter, the parameter's value will be changed to the number you typed in and the program will move to the next parameter. If the value was out of range, the program will tell you the minimum and maximum allowable values and will ask you for the number again.

6.1.2 Entering a Group of Characters

When you are entering a parameter consisting of a string of characters (such as the special printer initialization parameter), you will see the message
"Type the character and then press RETURN. Press F3 for some help."
This is your cue to enter a string of characters.

You can type in normal characters by pressing their keys on the keyboard. Special characters such as ESC and untypeable control characters can be entered by first pressing the F1 key and then typing in the ASCII code number for that character (code tables can be found in many computer manuals and printer manuals). After typing in the code number, press <Return>. If you just press <Return> with no number, no character is specified. Note that valid code numbers are in the range 0 to 255. Some codes may be modified by the printer interface before they actually get to the printer.

If you type in <Ctrl-Z> (Abort) the program will go back to the menu, leaving that parameter unchanged. If you want to put the <Ctrl-Z> character into your string of characters, you will have to enter it by specifying its ASCII code number (26).

If you type a <Ctrl-E> then the string will be cleared. In this case you don't press <return> to end the string.

If you type the <DEL> key, the last character you entered will be deleted from the parameter.

If you just type <Return> without entering any characters then the program will move on to the next parameter without changing the string.

When you have finished typing in your string of characters, press <Return>. The program will display the string to you in a readable form and will ask you if it is OK. If it is, answer Y (or anything except N or <Ctrl-Z>). The parameter's value will be changed to the string you entered and the program will move on to the next parameter. If you responded N, you will get another chance to enter the parameter. If you answer <Ctrl-Z>, you are returned to the main menu, leaving the parameter intact.

The current value of the parameter and the value you had entered are displayed in a special format. Control characters and some other unprintable characters are displayed as "CHR$(n)" where n is the code for the character. Normal characters are displayed inside double quotes.

6.1.3 The Configuration Parameters

A list of the parameters and their functions follows:

6.1.3.1 Miscellaneous Parameters

1) MAXIMUM NUMBER OF BOXES/LINES. This parameter limits the size of your trees. You can increase it to 140 but the larger the number the slower the program operates and you may run out of memory. It starts out with a value of 100.

3) DISPLAY PROGRAMMER'S TRACE MESSAGES. If this parameter is on, extra messages about what the program is doing will be displayed. Note that the messages are not designed for the average user of the programs. It should normally be off since the messages spoil some of the displays. However, if you want to be reassured that your computer hasn't died during a long operation (such as a move), you may want to turn on this parameter.

34) SIZE OF CACHE USED FOR FINDING BOXES IN TREE GROWER. (This parameter is not of general interest. Change it only if you know what you are doing.) To speed up TREE GROWER, a list of the locations of the last few boxes found is kept. Every time TREE GROWER tries to find out if a box is at a given position in the tree, it checks this list before embarking on a lengthy search. This list is called a cache. The parameter sets the size of the list. A value too large will make TREE GROWER waste time checking the list. A value too small will reduce the chance of finding a box in the list, which will cause multiple searches for the same-box. 5 is a good value for this parameter.

6.1.3.2 Page Related Parameters

These parameters control TREE PRINT and TREE CONFIGURE. See section 5.3 for more details on these parameters.

2) TOP OF FORM AFTER PRINTS. This parameter sets the start-up default for the parameter which makes the printer move the paper to the top of a new page. It is used by the TREE PRINT program and the TREE CONFIGURE program. A value of 0 stands for off and 1 stands for on.

18) TOP OF FORM BEFORE PRINTING. TO ENSURE ALIGNMENT OF THE STRIPS (AT THE COST OF WASTED PAPER), SET THIS PARAMETER TO 1. If this parameter is on, then TREE PRINT will move the paper to the top of a new page before printing the first strip of a tree. If it is off, TREE PRINT won't move the paper to the top of a new page. If your printer can't do form feeds this parameter will be ignored.

17) NUMBER OF LINES ON A WHOLE PAGE. USUALLY 66 (11 INCHES * 6 LINES PER INCH). BUT MAY BE DIFFERENT FOR SPECIAL PRINTING NEEDS. This is the exact number of lines which can be printed on one page. It is used by TREE PRINT and TREE CONFIGURE.

27) PRINT PITCH TO USE FOR PRINTING TREES - CHARACTERS PER INCH. The available print pitch closest to the parameter will be used. Commodore Graphics characters only print properly at 10 characters per inch.

6) PRINT THE STRIP NUMBER AT THE TOP OF EACH STRIP. If this parameter is on, the default action in TREE PRINT will be to print the text "Strip #" followed by a number at the top of each strip of the tree. If it is off, the default will be to not print the strip number.

20) PRINT A SELECTED RANGE OF STRIPS (0 TO PRINT ALL STRIPS, IGNORING THE LEFT AND RIGHT STRIP PARAMETERS). Controls whether the whole tree is printed (0) or only a range of strips (1).

29) STRIP NUMBER OF LEFTMOST STRIP TO BE PRINTED (USED WHEN PRINTING A SELECTED RANGE OF STRIPS). If parameter 20 is on, this parameter sets the leftmost strip in the range to be printed.

30) STRIP NUMBER OF RIGHTMOST STRIP TO BE PRINTED. Sets the rightmost strip in the range printed.

8) SIZE OF LEFT MARGIN. This parameter controls the number of spaces left blank at the left of the page while printing trees in TREE PRINT.

10) ASK FOR HEADER. If this parameter is on, TREE PRINT will ask you to define the header to be printed at the top of each strip in the tree. If it is off, you won't be asked for the header.

11) TAB BEFORE HEADER. This parameter controls the number of spaces printed in front of each line in the header. This tab is independent of the left margin setting.

6.1.3.3 TREE EDIT Parameters

This group of parameters controls the TREE EDIT program.

4) SHOW NAMES OF PEOPLE WHEN DISPLAYING TREES. You would normally want to leave this parameter turned on. If it is off, you won't get the list of ID numbers and names at the bottom of the screen in TREE EDIT. This could be useful if you didn't want the computer to access the diskettes to get the names to be displayed. It also speeds up the display, very slightly.

21) LARGEST DISPLAYABLE BLOCKING COUNT. This number controls the visibility of the blocking counts in TREE EDIT. Counts which are larger than it are not shown.

22) REDRAW THE TREE AFTER COMMANDS WHICH DON'T CHANGE THE TREE. If this parameter is off, TREE EDIT will not redraw the tree as often as it would when this parameter is on.

33) SCREEN WIDTH TO USE WHEN DISPLAYING TREE OUTLINES IN 'TREE EDIT' IF YOU HAVE AN 80 COLUMN DISPLAY. This only controls the screen width used in TREE EDIT and only for the outline display. The width used the rest of the time is set in FAMILY ROOTS. Note that the width of the main tree display in TREE EDIT is fixed at 40 columns.

70) STRING WHICH WILL TURN ON REVERSE VIDEO. Currently not used.

71) STRING WHICH WILL TURN OFF REVERSE VIDEO. Currently not used.

72) STRING WHICH WILL SIMULATE FLASHING CHARACTERS WHEN PRINTED. A GOOD CANDIDATE IS ONE OF THE COLOR SELECTION CHARACTERS. THE DEFAULT VALUE IS YELLOW. This is used in Tree Edit to highlight the current box/line.

6.1.3.4 TREE PRINT Box Format Parameters

This group of parameters controls the contents of the box printed for each person in TREE PRINT. For more details see section 5.3

7) PRINT ID AFTER NAMES. If this parameter is on, ID numbers will be printed after names in TREE PRINT. If it is off, they won't be printed (unless you temporarily change the value in TREE MENU).

9) USE LAST NAME FIRST. If this parameter is on, the last name of each person will be printed first (in TREE PRINT). If it is off, the normal order will be used.

12) USE MARRIED NAME. If this parameter is on, the last names in TREE PRINT will be replaced by the married name, if there is one.

13) PRINT NOTES (USES NOTE MASK). If this parameter is on, the notes associated with each person will be printed (in TREE PRINT). If it is off, no notes will be printed.

14) PRINT USER DEFINED FIELDS. If this parameter is on, TREE PRINT will print the user defined fields for each person. If it is off, the fields won't be printed.

15) PRINT NUMBER OF CHILDREN. If this parameter is on, TREE PRINT will print the number of children for each person. If it is off, the number won't be printed.

16) USE MONTH NAMES. If this parameter is on, months will be spelled out in dates in TREE PRINT. If it is off, months will be printed as numbers.

23) PRINT ALL USER DEFINED FIELDS (IGNORING YOUR SELECTIONS). If this parameter is on, all the user defined fields will be selected for printing. If it is off, the selections made in TREE MENU (section 4.7.2) will be used. This parameter only controls the source of the selections, the PRINT USER DEFINED FIELDS controls whether or not they are printed at all.

24) DEFAULT BOX WIDTH IN CHARACTERS. Each box printed in the "Everything" format will be this many characters wide.

25) NUMBER OF PRINTER LINES TO RESERVE IN EACH BOX FOR PRINTING USER DEFINED FIELDS, NOTES AND THE NUMBER OF CHILDREN. See section 5.3.

26) NUMBER OF PRINTER LINES FOR PRINTING THE LINES BETWEEN ROWS OF BOXES. Section 5.3 has an explanation of this parameter.

6.1.3.5 Disk Related Parameters

This group of parameters controls the use of the disk drive by TREE MENU and TREE PRINT.

5) DRIVE TO USE FOR SAVING AND LOADING TREE LAYOUTS. This parameter selects the default disk drive to be used when loading or saving trees in TREE MENU. See section 4.5 for information on loading and saving trees.

69) FILE NAME TO USE WHEN SAVING AND LOADING TREES. This name is only used in batch mode, you type the name when you manually save a file. Also, it is only the default name; used if the batch instructions don't define a name of their own.

31) CHECK DISKS AFTER SAVING OR LOADING A TREE FROM DISK. If on then the disks are automatically checked after you save or load a tree in TREE MENU. If set to 0 then no check is done.

28) DRIVE TO USE FOR TREE PRINT OUTPUT (WHEN REDIRECTING THE OUTPUT FROM THE PRINTER TO THE DISK). This is the disk drive where the text file, created when printing to disk, will be stored.

68) FILE NAME TO USE WHEN PRINTING A TREE TO DISK. The "printed" text will be put in a file with this name on the disk in the drive specified by parameter 28.

6.1.3.6 Line Drawing Character Definitions

The following group of parameters is used to tell the computer about the line drawing characters available on your printer. A line drawing character is a character which is part of a line. Shapes and lines can be made by putting these characters together. For instance, the top left corner of a rectangle is often available as a line drawing character. By combining these special graphic characters, your printer can put a nice line around the data for each person in the tree.

Check your printer's manual to see if it can print line drawing characters. You may have to fiddle with escape sequences (see the printer's manual) to get the printer to print the characters. For example, on some printers you can switch character sets between the normal letters and a set of special symbols. You would then set the line drawing character parameter to a sequence of characters which would:

1) Switch to the set of special characters.
2) Print the line drawing character.
3) Switch back to the normal character set.

If your printer can't print some or all of the line drawing characters, you can make up approximations using the other characters available on your printer. Good approximations can be created by backspacing. Many printers can print a character, backspace, and print another character in the same spot. This lets you combine characters to create new characters. Commodore Graphics characters only print properly at the standard size 10 characters per inche. If you are using compressed print size use the characters from the sample configuration file in Figure 4.

23) THE CHARACTER FOR A SPACE. This is the first of the line drawing character definitions for TREE PRINT. It should be set to the character which produces a space on your printer. In other words, it must be a space.

24) THE RIGHT HALF OF A HORIZONTAL LINE. If your printer can print the right half of a horizontal line set this parameter to the sequence of characters which will cause your printer to print it. See your printer manual for details. This one isn't too important since there are few places in a tree where this character would be used. (The end of a dangling horizontal line?)

25) THE TOP HALF OF AN UPWARDS LINE. Another not very often used line drawing character. Check your printer manual to see if it can be printed.

26) THE LOWER LEFT CORNER OF A BOX. If your printer has line drawing characters, set this parameter to the character or characters which will cause your printer to print the lower left corner of a box.

27) THE LEFT HALF OF A HORIZONTAL LINE. Not used very often.

28) A HORIZONTAL LINE. You should set this parameter to a character which looks like a horizontal line. You shouldn't use the underscore since it wouldn't line up with the characters which are used for the corners of boxes.

29) THE LOWER RIGHT CORNER OF A BOX. Often available as a line drawing character.

30) A HORIZONTAL LINE WITH A LINE GOING UP (LIKE AN UPSIDE DOWN 'T'). Another common line drawing character. See your printer manual.

You may be able to compromise with a minus sign, a backspace (ASCII code 8) and an apostrophe ('). This trick of backspacing can be applied to the other line drawing characters as well, if your printer supports it.

31) THE LOWER HALF OF A VERTICAL LINE. Not used very often.

32) THE TOP LEFT CORNER OF A BOX. A common line drawing character.

33) A WHOLE VERTICAL LINE. Most printers can print a vertical bar.

34) A VERTICAL LINE WITH A LINE JOINING FROM THE RIGHT. A common line drawing character.

35) THE TOP RIGHT CORNER OF A BOX. A common line drawing character.

36) A HORIZONTAL LINE WITH A LINE GOING DOWN (LIKE A 'T'). A common line drawing character.

37) A VERTICAL LINE WITH A LINE JOINING IT FROM THE LEFT. A common line drawing character.

38) A HORIZONTAL LINE ON TOP OF A VERTICAL LINE (LIKE A '+'). You can use a plus sign or a vertical bar, backspace and horizontal line combination or, if your printer has it, a line drawing character.

39) SPECIAL PRINTER INITIALIZATION FOR PRINTING TREES. (EG: CHANGING LINE SPACING). NOTE: THIS DOES NOT INCLUDE CHARACTER SIZE SELECTION. This string of characters will be sent to your printer when TREE PRINT starts printing the tree. It is different from the line drawing characters in that it is sent to the printer unchanged by the interface. In case you were wondering, the only other unchanged commands to the printer are the form feed character, (ASCII 12), the character size selection codes and the printer start/stop codes.

6.2 Putting the TREE CONFIGURATION File on your TREE PROGRAM Diskette

After you have set the parameters to your liking, you should save the TREE CONFIGURATION file on your Tree Program diskette. Start by selecting option B from the TREE CONFIGURE main menu.

The program will ask you for the disk drive on which you want to put the TREE CONFIGURATION file. Put the diskette into one of the drives then type the letter corresponding to the drive.

After you type the drive letter the program will write the TREE CONFIGURATION file. When it has finished, it will ask if you want to save another. If you answer "Y" it will ask for the drive letter again.

When you have finished putting the TREE CONFIGURATION file on your Tree Program diskette, press <return> to get back to the TREE CONFIGURE main menu.

6.3 Printing the Tree Configuration File

If you want to print the TREE CONFIGURATION file, select option C from the TREE CONFIGURE main menu. The configuration file will be printed immediately. It will be printed using the default character size which you selected in CONFIGURE. See Figure 4 for an example.

You can interrupt the printout by pressing <ctrl-z>. When it has finished printing, the program will go back to the TREE CONFIGURE main menu.

6.4 Exiting from TREE CONFIGURE

If you choose option D in the TREE CONFIGURE main menu, the exit menu will appear:

```
DID YOU REMEMBER TO SAVE THE TREE
CONFIGURATION FILE ON THE TREE CHARTS
DISKETTE?

  A) RUN ANOTHER PROGRAM
  B) CHECK FREE SPACE
  C) RETURN TO 'TREE CONFIGURE'
  D) END SESSION

WHICH (A-D)?
```

Table 12. Tree Configure Exit Menu

If you type **A**, you will be returned to the program menu (see section 3.3).

The remainder of the options should be familiar to you. If you are not sure of what they do, see the Family Roots manual, section 4.6 - "Exiting EDIT".

Tree Configuration

Index	Current Value	Description
1	100	MAXIMUM NUMBER OF BOXES/LINES.
2	1	TOP OF FORM AFTER PRINTS
3	0	DISPLAY PROGRAMMER'S TRACE MESSAGES
4	1	SHOW NAMES OF PEOPLE WHEN DISPLAYING TREES
5	1	DISK DRIVE TO USE FOR SAVING AND LOADING TREE LAYOUTS
6	1	PRINT THE STRIP NUMBER AT THE TOP OF EACH STRIP
7	1	PRINT ID AFTER NAMES
8	0	SIZE OF LEFT MARGIN
9	0	USE LAST NAME FIRST
10	0	ASK FOR HEADER
11	10	TAB BEFORE HEADER
12	0	USE MARRIED NAME
13	1	PRINT NOTES (USES NOTE MASK)
14	1	PRINT USER DEFINED FIELDS
15	0	PRINT NUMBER OF CHILDREN
16	1	USE MONTH NAMES
17	66	NUMBER OF LINES ON A WHOLE PAGE. USUALLY 66 (11 INCHES * 6 LINES PER INCH) BUT, MAY BE DIFFERENT FOR SPECIAL PRINTING NEEDS.
18	1	TOP OF FORM BEFORE PRINTING. TO ENSURE ALIGNMENT OF THE STRIPS (AT THE COST OF WASTED PAPER), SET THIS PARAMETER TO 1.
19	1	SEND TREE PRINT OUTPUT TO THE PRINTER (0 FOR DISK)
20	0	PRINT A SELECTED RANGE OF STRIPS (0 TO PRINT ALL STRIPS, IGNORING THE LEFT AND RIGHT STRIP PARAMETERS)
21	9	LARGEST DISPLAYABLE BLOCKING COUNT
22	1	REDRAW THE TREE AFTER COMMANDS WHICH DON'T CHANGE THE TREE
23	0	PRINT ALL USER DEFINED FIELDS (IGNORING YOUR SELECTIONS)
24	26	DEFAULT BOX WIDTH IN CHARACTERS
25	3	NUMBER OF PRINTER LINES TO RESERVE IN EACH BOX FOR PRINTING USER DEFINED FIELDS, NOTES AND THE NUMBER OF CHILDREN
26	3	NUMBER OF PRINTER LINES FOR PRINTING THE LINES BETWEEN ROWS OF BOXES
27	10	PRINT PITCH TO USE FOR PRINTING TREES - CHARACTERS PER INCH

Index	Current Value	Description
28	2	DRIVE TO USE FOR TREE PRINT OUTPUT (WHEN REDIRECTING THE OUTPUT FROM THE PRINTER TO THE DISK)
29	1	STRIP NUMBER OF LEFTMOST STRIP TO BE PRINTED (USED WHEN PRINTING A SELECTED RANGE OF STRIPS)
30	1	STRIP NUMBER OF RIGHTMOST STRIP TO BE PRINTED
31	1	CHECK DISKS AFTER SAVING OR LOADING A TREE FROM DISK.
32	0	UNUSED
33	39	SCREEN WIDTH TO USE WHEN DISPLAYING TREE OUTLINES IN 'TREE EDIT'. THIS IS IN CASE YOU HAVE AN 80 COLUMN DISPLAY.
34	5	SIZE OF CACHE USED FOR FINDING BOXES IN TREE GROWER.
35	0	UNUSED
36	0	UNUSED
37	0	UNUSED
38	0	UNUSED
39	0	UNUSED
40	0	UNUSED
41	0	UNUSED
42	0	UNUSED
43	0	UNUSED
44	0	UNUSED
45	0	UNUSED
46	0	UNUSED
47	0	UNUSED
48	0	UNUSED
49	0	UNUSED
50	0	UNUSED
51	" "	THE CHARACTER FOR A SPACE.
52	"-"	THE RIGHT HALF OF A HORIZONTAL LINE.
53	"'"	THE TOP HALF OF AN UPWARDS LINE.
54	"+"	THE LOWER LEFT CORNER OF A BOX.
55	"-"	THE LEFT HALF OF A HORIZONTAL LINE.
56	"-"	A HORIZONTAL LINE.
57	"+"	THE LOWER RIGHT CORNER OF A BOX.
58	"⊥"	A HORIZONTAL LINE WITH A LINE GOING UP (LIKE AN UPSIDE DOWN 'T').

Index	Current Value	Description
59	","	THE LOWER HALF OF A VERTICAL LINE.
60	"+"	THE TOP LEFT CORNER OF A BOX.
61	"!"	A WHOLE VERTICAL LINE.
62	">"	A VERTICAL LINE WITH A LINE JOINING FROM THE RIGHT.
63	"+"	THE TOP RIGHT CORNER OF A BOX.
64	"+"	A HORIZONTAL LINE WITH A LINE GOING DOWN (LIKE A 'T').
65	"<"	A VERTICAL LINE WITH A LINE JOINING IT FROM THE LEFT.
66	"	A HORIZONTAL LINE ON TOP OF A VERTICAL LINE (LIKE A '+').
67		SPECIAL PRINTER INITIALIZATION FOR PRINTING TREES. (EG: CHANGING LINE SPACING). NOTE: THIS DOES NOT INCLUDE CHARACTER SIZE SELECTION.
68	"TREE LISTING"	FILE NAME TO USE WHEN PRINTING A TREE TO DISK
69	"TREE DATA FILE"	FILE NAME TO USE WHEN SAVING AND LOADING TREES
70	CHR$(18)	STRING WHICH WILL TURN ON REVERSE VIDEO.
71	CHR$(146)	STRING WHICH WILL TURN OFF REVERSE VIDEO MODE.
72	CHR$(158)	STRING WHICH WILL SIMULATE FLASHING CHARACTERS WHEN PRINTED. A GOOD CANDIDATE IS ONE OF THE COLOR SELECTION CHARACTERS. THE DEFAULT VALUE IS YELLOW
73		UNUSED
74		UNUSED
75		UNUSED

FIGURE 4

7. BATCH MODE

You can set up a batch of instructions for the tree programs to do without your supervision. This is useful for doing such time consuming things as growing a large tree, then saving it or printing it out. A possible scenario might be to set up the batch in the evening so that you can get a printed tree the next morning (assuming that you have a quiet printer, and only 1 data disk). Batch code requires that the program disk remain in one of the drives. You really need 3 drives to use Batch commands if you have more than one data disk, or if you want to both save and print the tree you've grown. See Important note below.

7.1 Making a Batch of Instructions

There is a batch instruction editor in TREE MENU. You can use it by selecting option I from the TREE MENU main menu. Once you are in the batch editor, you will see this menu:

```
             BATCH COMMAND EDITOR

A) ADD OR INSERT AN INSTRUCTION.

B) DISPLAY CURRENT LIST OF INSTRUCTIONS

C) EXECUTE THE INSTRUCTIONS.

D) DELETE SOME OR ALL INSTRUCTIONS.

E) EXIT

CHOICE (A-E)?
```

Table 13. Batch Editor Menu

7.1.1 Adding Batch Instructions

Use option A to add new instructions to the list. The list consists of 31 instructions, numbered 1 to 31. You can add a new instruction at the end of the instructions you have already entered or you can insert it before any instruction in the list. After typing A you will see the prompt:

```
ADD AN INSTRUCTION TO THE END OF THE
LIST OR INSERT ONE BEFORE A PARTICULAR
LINE NUMBER. (I/A)?
```

If you type **I** you will be asked for the instruction number you want to insert the new instruction before. If you type **A**, the program will assume you want to insert the new instruction after the existing instructions. The program will then ask you for the new instruction. You will see this list:

```
SELECT AN INSTRUCTION:

A) LOAD A TREE FROM DISK USING THE NAME
   LAST SPECIFIED.
B) SAVE THE TREE IN MEMORY TO THE DISK
   USING THE LAST SPECIFIED NAME.
C) PRINT THE TREE IN MEMORY USING THE
   PRESET PARAMETERS.
D) GROW A NEW TREE FROM A GIVEN PERSON.
E) EXPAND AN OLD TREE FROM A GIVEN
   PERSON.
F) MAKE A NEW TREE JOINING TWO GIVEN
   PEOPLE.
G) SPECIFY THE FILE NAME TO BE USED
   WHEN SAVING OR LOADING TREES.
H) SPECIFY THE FILE NAME TO BE USED FOR
   PRINTING TREES TO DISK.

ENTER YOUR CHOICE (A-H)?
```

Table 14. Batch Instruction Menu

Choose the instruction you want to add. You will be prompted for extra information if it is necessary for the instruction. After the instruction selection is complete, the instruction is added and you are returned to the batch editor menu.

7.1.2 Displaying the Batch Instructions

Whenever you want to see the list of instructions you can type **B** in the batch editor menu. You will be shown the numbered list of instructions.

7.1.3 Deleting a Batch Instructions

Use option D to delete one or more batch instructions. After pressing **D** you will see the prompt:

```
DELETE ALL OR SOME INSTRUCTIONS (A/S)?
```

Typing **A** will clear the whole instruction list. Typing **S** will list the current instruction and ask you for the number of an instruction to delete. After a request to make sure that you really want to delete the instruction(s), the instructions are deleted and you are returned to the batch editor menu.

7.2 Leaving the Batch Editor

There are two ways of leaving the batch editor. Option E goes back to the TREE MENU main menu. Option C also goes back to the main menu and also starts up batch mode. Remember to set the program parameters before starting batch mode!

In batch mode instructions are taken from the batch instruction list instead of the keyboard. If you use option C you have a choice of the first instruction to be done. You can either start at the beginning and work up (towards increasing instruction numbers) or you can start batch mode in the middle at a particular instruction and work up from there. You are prompted for this choice after selecting option C with:

START AT THE BEGINNING OR MIDDLE (B/M)?

If you type **B** or <Return> the batch instructions start at the beginning. Typing **M** gives you a prompt for the instruction number you want to start at. Anything else sends you back to the batch editor.

7.3 What do the Batch Instructions do?

In batch mode the batch instructions simulate manual menu selections in the TREE PRINT, TREE GROWER, TREE JOIN and TREE MENU programs. You can get back manual control by typing <Abort> (no <Return>) while batch mode is running. It may take a while but, eventually batch mode will stop. While batch mode is running, you can see what the programs are doing. Each instruction is displayed before it is done.

You can use batch mode to print out trees, create new trees, load and save trees to disk.

7.3.1 Loading and Saving Trees in Batch Mode

When you load or save a tree in batch mode, the name of the file is taken from the FILE NAME TO USE WHEN SAVING AND LOADING TREES parameter. Before the load or save instruction is done, you must set the parameter. This can be done manually (section 4.7.1) or by using the SPECIFY THE FILE NAME TO BE USED WHEN SAVING OR LOADING TREES batch instruction. To sum up, use the SPECIFY THE FILE NAME TO BE USED WHEN SAVING OR LOADING TREES instruction followed by the load or save tree instruction.

Important note: Batch mode saves and loads will use whatever disk is in the drive. IF A TREE IS SAVED TO A DATA DISK, YOUR DATA MAY BE DESTROYED. Be sure your configuration file is set to save the tree to the same drive as the program disk. If there is a data, program or text diskette in the drive specified for saving trees, the tree will be saved on that disk. The program will display a warning message about the disk type. You can type <Abort> while the message is being displayed to stop the save. The sharing of a program, data or text disk with the tree data was done to reduce the number of disk swaps for systems with only a few

disk drives, since nobody is around to switch disks while it is in batch mode.

7.3.2 Printing Trees in Batch Mode

If you are printing trees on the printer you:

1) Manually set the parameters which control the details of the print format from TREE MENU (see section 4.7.2).

2) Use the batch print instruction (the instruction specifies what type of box format is used).

If you are printing to disk, the text file will have a name specified by the FILE NAME TO USE WHEN PRINTING A TREE TO DISK parameter. You can manually set this parameter or you can use the SPECIFY THE FILE NAME TO BE USED FOR PRINTING TREES TO DISK instruction before the print instruction.

Important note: When printing to disk in batch mode, Tree Print will use whatever disk is in the drive. IF A TREE IS SAVED ON A DATA DISK THE DATA MAY BE DESTROYED. See the other important note just a few paragraphs before this one. This is especially important since the file created is very large. You may want to make your own special program disk without the programs you don't need if you are printing to the program disk.

7.3.3 Creating Trees in Batch Mode

The GROW A NEW TREE FROM A GIVEN PERSON and the MAKE A NEW TREE JOINING TWO GIVEN PEOPLE instructions create a new tree in memory for the person or persons specified in the instruction. The instructions respectively call up TREE GROWER and TREE JOIN.

The EXPAND AN OLD TREE FROM A GIVEN PERSON instruction is similar in effect to the G command in TREE EDIT. This instruction includes the ID of the person from whom the tree is to be expanded. Note that there must already be a tree in the memory before you can use the expand instruction.

8. SUGGESTIONS FOR DOING FAMILY TREES

This section gives you some examples of how family trees can be created. Some tips for printing your trees are also given.

8.1 Doing a Tree for Two People

If you want to do a tree for two people, a good result may be obtained by first using TREE JOIN (see section 4.3) to lay down the base of the tree. Then go into the tree editor and set the blocking counts for the whole tree to 1 (see section 4.4.4). Then invoke TREE GROWER from Tree Edit to extend the tree (see section 4.4.5). This will thicken the line of relatives joining the two people. When the tree has been extended, go back to the tree editor and touch up the tree to your satisfaction. Save the tree for later reference (or expansion) and print it out.

8.2 Doing your Whole Family

To do a tree including most of your family, start with the oldest person in your family. Use tree grower to start the tree growing from him or her (see section 4.2). When TREE GROWER has done as much as it can, go into Tree Edit to try to fit in more people.

Look for people whose children are not in the tree. Remember that TREE GROWER is not very aggressive about doing children or parents. You may be able to fit in the children or parents of a person by moving that person right (see section 4.4.6) to a place where there is space for the children or parents. You may want to move the person left instead of right. This can be accomplished by moving other people right (everything is relative, including relatives, right?)

To find missing children, you can print out a draft of the tree. Turn on the "PRINT NUMBER OF CHILDREN" parameter from TREE MENU - Box Format Parameters. Print a tree with everything in it (option F in the TREE PRINT main menu). The number of children will be shown for each person. You can then easily see which parents have missing children. Note that the Tree Programs can't handle children (or anybody at all) who doesn' have an ID number. However, those people without ID numbers are still included in the number of children count.

8.2.1 Splitting a Tree

If you run out of boxes, you may have to split your tree into separate parts which can be worked on and then manually glued together.

To split the tree you need to find a single point where it can be divided into a right and left section. That point could be a person or it could be the middle of a line. Save the tree layout to disk (section 4.5). We will call that file A for convenience.

Go back to Tree Edit and put the current box/line at the splitting point. Erase all the boxes/lines to the left of the point (see section

4.4.3) and save the result in a new file. You can call it whatever you want to but I will refer to it as file B.
Now load in file A (the original tree), go into Tree Edit, find the splitting point and erase everything on the other side (to the right) of it. Save the result in file C.

You have now split the tree in file A into two parts which are in files B and C. As an exercise for the reader, you can figure out how to avoid erasing the splitting point.

8.3 Doing Part of Your Family

To create a tree showing only one branch of your family (more practical than trying to make a tree showing everything), start a new tree using TREE EDIT. First place the person who joins the branch to the main part of your family into the tree. Set the blocking count to 0 on the side of that person which would join to your family.

For instance, if you wanted to print your son's tree, you would start the tree with your son. The upwards blocking count on your son should be set to zero since you don't want to include yourself and the rest of your family.

Then apply TREE GROWER to this person (use the **G** command in TREE EDIT). In the example the tree would include all of your son's relatives except his parents, siblings and other people related through his parents and siblings.

The result is a tree displaying a branch of the family. Touch it up as needed, save it and print it out.

8.4 Tips for Printing your Tree

If you have a large tree or if you are using the "print everything" option in TREE PRINT, you will want to place the strips of the tree next to each other, so that you can see your whole tree. You can glue or tape the strips together, you can hang them up on a wall or you can pin them to a bulletin board.

In any of those cases, the tree would look better if you could butt the strips up against each other, without any intervening bits of white paper. This can be accomplished if you adjust the printer to start printing at the very edge of the paper. You should also set the left margin to 0 in TREE PRINT (see section 5.3).

The tree also looks better when the tops of all the strips are at the same level. To do that, you have to set the "TOP OF FORM BEFORE PRINTING" parameter on and the number of lines per page to 2000. Again, see section 5.3 for information on setting parameters.

That's about all. We hope that you have hours of fun using the Tree Programs and that you find them useful.